

What is claimed is:

1. A multi-layer coating film-forming method which comprises coating a cationic electrodeposition coating composition (A) containing a blocked polyisocyanate compound as a crosslinking agent to form a non-cured electrodeposition coating film, coating a water based intercoat coating composition (B₁) containing a hydroxyl group and carboxyl group-containing base resin, a blocked polyisocyanate crosslinking agent, a fine aluminum powder and a titanium oxide white pigment onto the non-cured electrodeposition coating film to form a non-cured intercoat coating film, followed by heat curing both coating films simultaneously.

2. A method as claimed in claim 1, wherein a crosslink-curing reaction of the non-cured electrodeposition coating film is controlled so as to take place earlier than a crosslink-curing reaction of the non-cured intercoat coating film.

3. A method as claimed in claim 1, wherein the fine aluminum powder has a mean partial size in the range of 20 μ m or less, and optionally is coated with a phosphate group-containing compound.

4. A method as claimed in claim 1, wherein the water based intercoat coating composition (B₁) is such that the fine aluminum powder is contained in the range of 0.1 to 30 parts by weight, and the titanium oxide white pigment is contained in the range of 1 to 200 parts by weight per 100 parts by weight of a total amount of the hydroxyl group and carboxyl group-containing base resin and the

crosslinking agent respectively.

5. A mult-layer coating film-forming method which comprises coating a cationic electrodeposition coating composition (A) containing a blocked polyisocyanate compound as a crosslinking agent to form a non-cured electrodeposition coating film, coating a water based intercoat coating composition (B₂) containing a hydroxyl group and carboxyl group-containing base resin, a blocked polyisocyanate crosslinking agent and an alicyclic epoxy compound to form a non-cured intercoat coating film, followed by heat curing the both coating films simultaneously.

6. A method as claimed in claim 5, wherein a crosslink-curing reaction of the non-cured electrodeposition coating film is controlled so as to take place earlier than a crosslink-curing reaction of the non-cured intercoat coating film.

7. A method as claimed in claim 1 or 5, wherein the cationic electrodeposition coating composition (A) is a lead-free cationic electrodeposition coating composition further containing a bismuth-containing compound.

8. A method as claimed in claim 7, wherein the bismuth-containing compound is selected from the group consisting of bismuth hydroxide, bismuth trioxide, bismuth nitrate, bismuth benzoate, bismuth citrate, bismuth oxycarbonate and bismuth silicate.

9. A method as claimed in claim 7, wherein the bismuth-containing compound is in the form of a water-dispersed paste prepared by mixing and dispersing in the presence of a dispersing agent into an aqueous medium a water-insoluble bismuth compound and an aliphatic carboxylic acid represented by the formula:
 $R_1C(H)(OR_2)(CH_2)_nCOOH$, wherein R_1 is hydrogen atom or an alkyl group having 1 to 3 carbon atoms, R_2 is hydrogen atom or an alkyl group having 1 to 10 carbon atoms and n is 0 or 1, and containing therein an aliphatic carboxylic acid-modified bismuth compound in a water-insoluble state.

ADD 2